

Student learning outcomes (SLOs) describe the knowledge, skills, and attitudes that characterize students who complete an academic program. Outcomes should be observable and measurable. Use concrete, behavioral language to describe student learning in ways that suggest direct measures.

SMART Student Learning Outcomes

Specific	Describe a specific category of student learning. Use well-defined and clear language to describe exactly what the student will know, do, or value at the end of the learning experience. SLOs stated too broadly or too abstractly are difficult to measure.
Measurable	Use concrete language to describe the knowledge students will be able to articulate or explain, the skilled disciplinary behaviors they will be able to perform, the values and attitudes they will articulate, and how adherence to these values will manifest in their professional behavior.
Appropriate / Attainable / Action-Oriented / Aligned	Expectations for student learning describe expertise that is reasonably attainable and appropriate for the developmental level of students enrolled in the course (lower-level undergraduate / general education, upper-level undergraduate, master’s-level graduate, doctoral-level graduate), given the educational experiences created in the curriculum and the resources available. SLOs should align with goals articulated for the department mission, national disciplinary standards for student learning, and the mission and goals of the college and university.
Relevant / Realistic / Results-Oriented	Learning outcomes should be reasonable given the resources available. Realistic SLOs should be neither too easy to attain nor impossible to attain. Relevant SLOs describe learning that reflects disciplinary goals and standards. Relevant SLOs might describe non-disciplinary skills expected of all graduates of the institution (i.e., that align with general education SLOs).
Time-Specific	Course-level SLOs should be appropriate for the location of a course in the curriculum (early, middle, capstone). Program-level SLOs should be appropriate for the level of expertise represented by the degree awarded (baccalaureate, master’s, doctorate).

How many SLOs?

- **Degree programs** must have at least one program-level SLO for each of the four domain areas of an ALC or ALP.
- **Individual courses** typically have three to six course-level SLOs, although some courses have more than six SLOs.
- **Certificates and stand-alone minors** must have at least one SLO and with the overall number of SLOs being proportional to the number of credit hours in the certificate or minor.

- Remember, departments should assess each SLO a full-cycle of assessment within a 5-year period. A full-cycle of assessment is typically a 2-3 year period that includes baseline assessment, implementation of improvement of student learning strategy, and a follow-up assessment to determine if the intervention was successful or needs further work on improvement.

Guidelines for Writing Measurable SLOs

When writing (or reviewing) SLOs, consider the following guidelines and expectations:

- Write student learning outcomes in measurable language. Use the SMART model to write *measurable* outcomes. Refer to the Action Words for Bloom's Taxonomy (on the IE website) to *describe knowledge, skills, and/or attitudes in behavioral terms that imply direct measures of student learning*. These outcomes support effective assessment because they suggest measures based on direct observation of student performance or evaluation of a student work product.
- Write student learning outcomes in language that students, parents, and individuals outside the discipline will understand.
- SLOs describe expectations for student learning and achievement that clearly represent progressively more advanced and rigorous content expertise and cognitive skills (analysis, synthesis, evaluation) associated with the role a course serves in the curriculum (lower-level undergraduate / general education, upper-level undergraduate, master's-level, or doctoral-level).
- Student learning outcomes *are not* any of the following:
 - course goals,
 - course descriptions,
 - a list of course topics,
 - course content outlines,
 - course assignments,
 - descriptions of teaching techniques,
 - learning activities, or
 - course processes or procedures.

References

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- Maki, P. L. (2010). *Assessing for learning: Building a sustainable commitment across the institution* (2nd ed.). Sterling, VA: Stylus.
- Stanny, C. J. (published online 2013). *Assessing learning in psychology: A primer for faculty and administrators*. Oxford Handbooks Online. Dana S. Dunn, Ed. Subject: Psychology, Personality and Social Psychology. DOI: 10.1093/oxfordhb/9780199933815.013.065 Retrieved 18 December 2013 <http://www.oxfordhandbooks.com/view/10.1093/oxfordhb/9780199933815.001.0001/oxfordhb-9780199933815-e-065?rskey=Dya9d3&result=136>
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